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ABSTRACT

After a brief review of the growth of cable television from 1948 to 1965, the paper examines in more detail trends in the structure of the industry since 1965. Specifically, interest revolves around the apparent trends of concentration and vertical integration within the industry. Corporate histories of the leading firms are then used to demonstrate the reasons for the increases in concentration. In addition, documentation is presented of vertical integration by the leading firms into both program production and development of specialized equipment. Finally, these recent trends are related to the "public good" aspects of programing. Conclusions on network formation and possible policy alternatives in cable television are made. (Author/WH)

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RECENT TRENDS IN THE STRUCTURE OF THE CABLE TELEVISION INDUSTRY

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Martin Perry

In recent years, important questions have been raised about the impact of the growing cable television industry upon television communications. This paper is an attempt to shed light on this problem by examining some aspects of the strucutre of the cable television industry.[1] Section I presents a brief history of the CTV industry. Section II documents recent trends of concentration in ownership in the CTV industry. Section III discusses growth of the five leading CTV firms. Section IV discusses the vertical integration of the same five leading CTV firms. Finally, Section V concludes with an explanatory scenario of these recent events within the CTV industry.

Section I

The pioneering applications of cable television technology occurred in late 1948 independently in Astoria, Oregon by I. E. Parsons and in Mahanoy City, Pennsylvania by John Walson.[2] Astoria and Mahanoy City were just beyond the broadcast range of the new over-the-air television stations in Seattle and New York, City, respectively. However, Parsons and Walson discovered that the over-the-air television signals could be received by large suitably-located antennas and then retransmitted by cable to television-hungry homes in their respective communities. Costs of these two early systems were mainly covered by the profits on the sales of television sets to the subscribers.

The pattern was soon followed in other similarly situated communities as a result of the 1949-1952 FCC freeze on television spectrum allocations which postponed the introduction of over-the-air television outside major urban areas.[3] Even with the rapid spread of over-the-air television after 1952, cable television continued to grow. CTV industry subscriptions doubled every year until 1956 reaching 300,000 and thereafter approximately 100,000 new subscribers per year were enrolled until 1964.[4]

This growth of the CTV industry can be partially[5] attributed to the demand for additional television network programming in those communities having over-the-air access to less than the three existing networks. Full over-the-air network coverage of the entire nation could have been achieved by a Federal Communications Commission policy of <u>regional</u> television spectrum allocations. Instead, FCC policy arising from the 1949-1952 deliberations prevented full network coverage by granting only <u>local</u> television spectrum allocations.[6] As a result, many small local television markets unable to support three network affiliates were denied the full network programming that powerful regional television stations could have supplied. Thus, during the 1950's and early 1960's, cable television grew and prospered in the gaps of incomplete network coverage, complementing over-the-air television service.

In a report to the FCC in 1965, Martin Seiden [1965] stated that there were no existing CTV systems operating in communities with good reception of the three network signals. Further, Seiden questioned the potential of cable television to penetrate such markets. Thus, Seiden concluded that the growth of the CTV industry would be limited to communities which were unable to receive the three network signals and which could be profitably wired. Seiden computed the resulting maximum national CTV penetration for 1965 at six million subscriptions, only 10% of total television homes at the time.[7]

Even though CTV subscriptions did not reach six million until 1972, the years 1966 and 1967 witnessed the introduction of cable television into New York City and Los Angeles, respectively. During the early 1960's, CTV entrepreneurs had come to believe that some combination of improved reception, local origination, and importation of additional independent television signals could make urban cable television profitable. Apparent initial successes with cable television in large communities attracted additional capital and publicity to the CTV industry. The exaggerated specter of a "wired nation"[8] appeared to be a serious threat to over-the-air television and the communications system fostered by the FCC. Thus, prodded by existing broadcast interests, the FCC asserted and initialed regulatory control over the CTV industry in March, 1966.

Some aspects of the regulatory influences upon the CTV industry will be discussed in section V. But first, the trends of increasing concentration, growth of large "CTV chains," and vertical integration within the CTV industry will be discussed in sections II, III, and IV, respectively.

Section II

In the discussion of "CTV chains" to follow, concentration should not be interpreted as traditional horizontal integration. Individual CTV systems are franchised as local monopolies and therefore by definition cannot compete among themselves for subscriptions. Thus, concentration ratios have no meaning in the traditional sense. However, concentration ratios are examined in this section in order to illucidate the trends in the national market for access to viewing audiences. In doing so, the information may be of assistance for examing the implications of the growth of cable television on the quantity, quality, variety, and price of programming available to the nation's television viewers.

Based on the Seiden report,[9] a rough picture of the CTV industry can be constructed for January 1, 1965 (see table 1, column 1). The leading four CTV firms accounted for approximately 250,000 subscriptions--half of these belonging to H&B Communications controlled by RKO General. Relative to total industry subscriptions of approximately 1,275,000, the computed four-firm concentration ratio is 19.6%. Further extrapolation from Seiden's data yields a eight-firm concentration ratio of 28.2%.

Between 1965 and 1970, growth of industry leaders struggled to keep pace with total industry growth. From a book edited by Charles Tate [1971] entitled Cable Television in the Cities and from Moody's Industrial Manuals, one can construct rough upper bounds on the sub-

Table 1

(1) Jan. 1, 1965

1.	RKO-H+B	120,000	
2.	--	60,000	
3.	--	40,000	
4.	--	30,000	
		250,000	→ (19.6%)
5.	--	30,000	
6.	--	30,000	
7.	--	25,000	
8.	--	25,000	
		360,000	→ (28.2%)
industry		1,275,000	

(2) Jan. 1, 1970

1.	H+B	242,000	
2.	TPT	<243,000	
3.	Cox	<190,000	
4.	Viacom	<150,000	max.
		<825,000	→ (18.3%)
5.	CG	<123,000	
6.	Cypress	<120,000	
7.	ATC	112,000	
8.	TL	<106,000	max.
		<1,286,000	→ (28.6%)
industry		4,500,000	

(3) Jan. 1, 1971

1.	TPT	535,000	
2.	Cox	197,000	
3.	ATC	180,000	
4.	Viacom	150,000	
		1,062,000	→ (20.0%)
5.	Tele-Comm	142,000	
6.	Cypress	140,000	
7.	CG	123,000	
8.	TL	106,000	
		1,573,000	→ (29.7%)
industry		5,300,000	

(4) Jan. 1, 1972

1.	TPT	670,000	
2.	Warner	360,000	(includes Cypress)
3.	Tele-Comm	270,000	
4.	ATC	260,000	
		1,550,000	→ (23.3%)
5.	Cox	240,000	
6.	Sammons	200,000	
7.	CG	170,000	
8.	Viacom	170,000	
		2,330,000	→ (35.0%)
industry		6,650,000	

(5) Jan. 1, 1973

1.	TPT	>680,000	
2.	Warner	>360,000	
3.	Tele-Comm	>320,000	
4.	ATC	>275,000	min.
		1,635,000	→ (22.4%)
5.	Cox	>245,000	
6.	Sammons	>200,000	
7.	Viacom	>190,000	
8.	CG	>170,000	min.
		2,440,000	→ (33.4%)
industry		7,300,000	

(6) Jan. 1, 1973

1.	TPT	680,000	
2.	Cox-ATC	520,000	
3.	Warner	360,000	
4.	Tele-Comm	320,000	
		1,880,000	→ (25.8%)
5.	Sammons	200,000	
6.	Viacom	190,000	
7.	CG	170,000	
8.	Comm. Prop.	160,000	
		2,590,000	→ (35.5%)
industry		7,300,000	

Table 1
(continued)

(7) June 1, 1973

1.	TPT	800,000	
2.	Warner	450,000	
3.	Tele-Comm	387,000	
4.	ATC	350,000	
		1,987,000	(24.8%)
5.	Cox	275,000	
6.	Viacom	254,000	
7.	Sammons	221,000	
8.	CG	202,000	
		2,939,000	(36.7%)
	industry	8,000,000	

RKO = RKO General, Inc. (subs. of General Tire and Rubber Co.)
H+B = H+B Communications Corps.
TPT = TelePrompter Corp.
Cox = Cox Cable Communications Corp. (subs. of Cox Broadcasting Corp.)
Viacom = Viacom International Inc. (subs. of Columbia Broadcasting System, Inc. until June, 1971)
ATC = American Television and Communications Corp.
Cypress = Cypress Communications Corp.
CG = Cablecom-General, Inc. (subs. of RKO General, Inc.)
TL = Time-Life Broadcast, Inc.
Tele-Comm = Tele-Communications, Inc.
Warner = Warner Communcations, Inc.
Sammons = Sammons Communications, Inc.
Comm. Prop. = Communications Properties, Inc.

(1) Seiden presents only the RKO-H+B subscription count. Others were constructed from his additional data. The industry subscription count is from TV Factbook-Services Volume, 1972-73, p. 75a.

(2) H+B's subscription count is from Moody's Industrial Manual (1970), p. 2039. TelePrompter's subscription count is from computing the July, 1972 subscription total on only the systems TPT owned as of Jan. 1, 1970 --a substantial overestimate. Cox's subscription count is from Tate's Jan. 1, 1971 estimate after subtracting minor 1970 acquisitions. The Viacom (owned by CBS in 1970) Cablecom-General, and Time-Life subscription counts are from Tate's Jan. 1, 1971 estimates. American's subscription count is from Moody's Industrial Manual (1970), p. 190. Cypress's subscription count is from Moody's Industrial Manual (1971), p. 76. The industry subscription count is from TV Factbook-Services Volume, 1972-73, p. 75a.

(3) Firm subscription counts are from Tate, p. 106 which appear to be most accurate for Jan. 1, 1971. The industry subscription count is from TV Factbook-Services Volume, 1972-73, p. 75a.

(4) Firm subscription counts are from my direct computations from TV Factbook-Services Volume, 1972-73, p. 84a. The industry subscription count is from averaging Jan. 1, 1972 (6,000,000) with Jan. 1, 1973 (7,300,000); TV Factbook-Services Volume 1973-74, p. 84a. Warner includes Cypress merger agreed on in May 1972, but not consummated until Sept. 1972.

(5) Firm subscription counts are obtained by updating my July 1, 1972 computations for acquisitions and mergers occurring during the second half of 1972 as reported in the weekly CATV Station Activity Agendas. The industry subscription count is from TV Factbook-Services Volume, 1973-74, p. 84a.

(6) Firm subscription counts are same as July 1, 1972 except they include the unconsummated merger of Cox Cable Commission Corp. and American Television and Communications Corp. in July, 1972.

(7) Firm subscription counts are from Weekly Television Digest, Special NCTA Convention Supplement, June 17-20, 1970, p. 1. The industry subscription count is an estimate of 700,000 subscription growth for first five months of 1973.

scription counts of leading firms as of January 1, 1970 (see table 1, column 2). Relative to total industry subscriptions of 4,500,000, the resulting maximum four- and eight-firm concentration ratios are 18.3% and 28.6%, respectively.

By using Tate's computations without adjustment, one obtains an approximate picture of CTV industry leaders as of January 1, 1971[10] (see table 1, column 3). Relative to total industry subscriptions of 5,30C,000, the resulting four- and eight-firm concentration ratios are 20.0% and 29.7%, respectively. Hopefully, these are good estimates against which to compare the more recent ratios.

If no trend in concentration was evidenced from 1965 through 1970, the evidence since 1970 seems to confirm modest increases in concentration. Based on extensive computations from the 1972-1973 Television Factbook survey of CTV systems, the subscription totals for the eight leading firms can be computed as of July 1, 1972 (see table 1, column 4). Using a midyear industry subscription total of 6,650,000,[11] the computed four- and eight-firm concentration ratios are 23.3% and 35.0%, respectively. This represents a slight but noticeable increase in concentration since January, 1971.

By updating the data from July, 1972 to include acquisitions and mergers affecting the leading CTV firms during the second half of 1972,[12] minimum concentration ratios can be computed for January 1, 1973 (see table 1, column 5). These ratios are minimum limits for the exact values in that the data do not allow for accurately estimating the internal growth of these CTV firms during the second half of 1972. However, these ratios are a useful check on the other results since the January 1 Television Factbook estimate of total industry subscriptions is presumably more accurate than midyear interpolations. Thus, relative to total industry subscriptions of 7,300,000 for January 1, 1973, the four- and eight-firm concentration ratios are 22.4% and 33.4% respectively.

In July, 1972 American Television and Communications Corp. (ATC) and Cox Cable Communications Corp. (Cox) agreed on a stock formula to merge their two firms. But as a result of an informal disapproval by the Justice Department, the merger plans were cancelled in April, 1973. However, if the merger had been approved, the minimum four- and eight concentration ratios for January 1, 1973 would have been substantially increased to 25.8% and 35.5%, respectively (see table 1, column 6).

Finally, a yet more recent gauge of concentration in the CTV industry can be obtained by means of data contained in the special National Cable Television Association Convention Supplement of the Weekly Television Digest. Subscription totals for the leading eight CTV firms are obtained for June 1, 1973[13] (see table 1, column 7). Assuming that new subscriptions for the first five months of 1973 may be as high as 700,000,[14] the 8 million estimated total industry subscriptions for June 1, 1973 yield four- and eight-firm concentration ratios of 24.8% and 36.7%, respectively.

Table 2

	Four-firm concentration ratio	Eight-firm concentration ratio
(1) Jan. 1, 1965	19.6%	28.2%
(2) Jan. 1 1970	< 18.3%	< 28.6%
(3) Jan. 1, 1971	20.0%	29.7%
(4) July 1, 1972	23.3%	35.0%
(5) Jan. 1, 1973	> 22.4%	> 33.4%
(7) June 1, 1973	24.8%	36.7%

Examining table 2, one finds no evidence of increased concentration in the CTV industry until after 1970, and then only modest increases. However, this evidence can be deceiving without further examination of the industry. First, from January 1, 1965 to January 1, 1971, industry subscriptions quadrupled from 1.3 million to 5.3 million. This four million increase in subscriptions was spread over 1300 systems existing in 1965 as well as over 1200 new systems beginning operation by 1971.[15] Thus, the maintenance of constant concentration required the rapid growth of multi-system CTV firms by means of acquisition and merger. Second, the recent experience indicates concentration may rise even with implicit ban by the Justice Department against mergers among leading CTV firms. Thus, the aggressive tendencies for industry leaders to grow with and even outgrow the industry as a whole will now be examined in section III.

Section III

TelePrompTer Corp.,[16,17] the current industry leader with over 800,000 subscriptions as of June 1, 1973, has been built predominantly by acquisition and merger. The corporate entity was formed in 1951, but the first venture into cable television was in 1959 with the acquisition of two small systems in New Mexico. Other acquisitions of individual systems soon followed. TelePrompTer acquired Eugene, Oregon (SF) and Elmira, New York (SF) in 1960, Santa Cruz, California (SF) and Johnston, Pennsylvania (SF)[18] in 1962, and Tuscaloosa, Alabama (S) in late 1964.

Then until 1968, acquisitions virtually halted while interest focused on franchising and initial development of the first urban CTV systems in New York City and Los Angeles.

In December, 1965, New York City granted TelePrompTer a franchise for the northern portion of the Borough of Manhattan containing approximately 400,000 dwelling units. Hughes Aircraft joined TelePrompTer in the New York City franchise by acquiring 49% of TelePrompTer Manhattan CATV Corp. in June, 1966. Then in December, 1966, TelePrompTer and Hughes obtained franchises from Los Angeles for various acreas of the city containing approximately 180,000 dwelling units. Development of these two systems began soon after franchising, and currently they are TelePrompTer's largest two systems as well as being among the ten largest systems in the nation.[19]

In 1968, TelePrompTer began a new phase of acquisition and merger. In 1968 and 1969, franchises and undeveloped systems were acquired in Alabama (Mobile (F)), New York (Newburgh (F)), New Jersey (Newark (F)), and Florida. But more importantly, in September, 1970, TelePrompTer merged with H&B Communications Corp.,[20] the industry leader. H&B was formed in 1941, but had only been involved in the cable television industry since 1960. In 1961, H&B had acquired the large Reno, Nevada (SF) system. Other acquisitions during the 1960's had included Florence, Alabama (SF), Clarksburg, West Virginia (S), Dubuque, Iowa (S), Rochester, Minnesota (S), and the several small systems of Jack Kent Cooke, Inc. in 1968. In addition, franchises were developed during the 1960's in communities including Lompoc, California (S), Santa Monica, California (S), and Wildwood, New Jersey (S). Thus, when the merger was consummated, H&B added approximately 250,000 subscriptions to TelePrompTer's over 200,000 subscriptions. With the additional acquisition of Reeves Telecom Corp. in late 1970 (Huntsville, Alabama (SF), Portsmouth, Oregon (S), and Seattle, Washington (F)), TelePrompTer's approximate subscription count of January 1, 1971 reached 535,000.[21]

Since 1970, TelePrompTer has redirected its attention toward obtaining and acquiring franchises in large communities instead of acquiring existing large CTV systems. Specifically, TelePrompTer now has major new franchises in San Bernadino, California (SF), Oakland, California (F), Los Angeles, California (F), Lakeland, Florida (F), West Palm Beach, Florida (F), Trenton, New Jersey (F), Islip, New York (F), Greenville, South Carolina (F), El Paso, Texas (F), Tacoma, Washington (F), Worchester, Massachusetts (F), and other communities. TelePrompTer can also expect to obtain additional large franchises from among its 70-80 applications.[22]

Thus, TelePrompTer's growth has traditionally resulted from merger and acquisition. However, TelePrompTer has also exhibited aggressive leadership in the development of urban CTV systems and in franchising large communities. Thus, future growth will undoubtedly shift to the internal development of existing and new franchises in urban areas and medium-sized towns.

The second largest CTV firm behind TelePrompTer is Warner Communications, Inc.[23] with approximately 450,000 subscriptions as of June 1, 1973. Originally involved in funeral operations, cleaning and maintenance services, and parking garages, Kinney Services began a redirection of interests with the acquisition of Warner Bros.-Seven Arts, Ltd. in July, 1969. In 1971, the funeral operations and other construction services were sold and the company began acquiring cable television firms. Initially, a number of small CTV systems were acquired from Continental Telephone Corp. (Reston, Virginia (F)) in December, 1971. But in January, 1972, TeleVision Communications Corp. was acquired to consolidate the cable television properties of the renamed company, Warner Communications. Soon after in September, 1972, the large Cypress Communications Corp. was merged into TeleVision Communications.

TeleVision Communications Corp.[24] was formed in 1962 and gradually acquired a number of small to medium size CTV systems during the following decade (Pottsville, Pennsylvania (S) and Danville, Illinois (S)), and Winter Haven, Florida (F)). In 1969, TeleVision Communications Corp. was not among the leading eight CTV firms and had less than 100,000 subscribers. However, the addition of Cypress Communications Corp.,[25] with over 180,000 subscriptions as of July, 1972, made Warner the second largest CTV firm behind only TelePrompTer. Cypress was formed in 1965, and since 1968 had acquired several large systems and franchises such as Altoona, Pennsylvania (SF), Ft. Walton Beach, Florida (SF), Kingsport, Tennesse (SF), Palm Springs, California (SF), Columbus, Ohio (F), Bakersfield, California (SF), and Canton, Ohio (SF).[26] In addition, as a result of the Cypress acquisition, Warner has become the leading applicant for new urban franchises throughout the nation.[27]

Thus, Warner Communications is a specific example of the intense interest that cable television has generated during the 1970's. The company is the result of a complete redirection of business into film-making and cable television in the span of a few years. The cable television holdings have been accumulated predominantly by merger activity in 1972 with the old Cypress Communications Corp. as the core. Since Akron and Columbus, Ohio are the only two substantial undeveloped franchises, future growth may depend on new acquisitions[28] or on receiving and developing new franchises from among its over 80 applications.

Tele-Communications, Inc.,[29] currently the third largest CTV firm with 387,000 subscribers as of June 1, 1973, was formed in 1968 to consolidate many small cable television systems in the western states. Since 1968, the growth of Tele-Communications has been almost exclusively by acquisition and merger. In January 1971, Tele-Communications acquired Centre Video Corp. (State College, Pennsylvania (S); Avalon, Pennsylvania (F); Glassport, Pennsylvania (F); and Penn Hills Township (F)) with substantial cable television holdings in Pennsylvania. Then in 1972, Tele-Communications also acquired Rust Craft Cable Communications, Inc. (Lima, Ohio (S)), Evening Telegram Company (Fremont, California (F) and Daly City, California (F)), Nation Wide Cablevision, Inc.

(Garden Grove, California (F), San Lorenzo, California (F), San Mateo, California (F), and Bellingham, Washington (S)). More recently, Tele-Communications acquired FCB Cablevision, Inc. (Sunnyvale, California (F), Oceanside, California (S), Pueblo, Colorado (SF), and Poughkeepsie, New York (F)) in April, 1973.

In addition to acquisitions, Tele-Communications has obtained shares of franchises in-and-around Kansas City, Missouri (80%); in Salt Lake City (F) and Ogden, Utah though 50% ownership of Community TV of Utah, Inc.; in Vallejo, California (F-50%); and in Madison, Wisconsin (F-25%). However, even though Tele-Communications has a substantial edge over the other leading CTV firms in numbers of undeveloped franchises (primarily in California, Utah, Kansas, and Missouri), the majority appear to have only limited potential for subscriptions. In addition, Tele-Communications lags in the competition for new urban franchises.[30]

Thus, Tele-Communications, Inc. is primarily composed of smaller CTV systems which have been accumulated by stock acquisitions. However, future growth is likely to depend more heavily on the internal development of existing franchises, most of which are in medium-sized communities. In this sense, Tele-Communications differs from other industry leaders by its apparent lack of enthusiasm for marketing cable television in central cities.

American Television and Communications Corp.[31] was formed in 1968 and has since acquired CTV systems throughout the nation. Early acquisitions included Lafayette, California (S), Mankato, Minnesota (S), and in 1969 Meredith-Avco (Melbourne, Florida (SF) and Fayetteville, North Carolina (SF)). In 1970, American acquired Reading, Pennsylvania (SF) and the franchise for Jackson, Mississippi (F), and in 1971 acquired Charleston, West Virginia (SF) and Jefferson-Carolina Corp.[32] (Raleigh, North Carolina (S), Greensboro, North Carolina (F)). Thus, in July, 1972, American was the third largest CTV firm with approximately 270,000 subscriptions.

That same month--July, 1972--American agreed to merge with Cox Cable Communications Corp. into what would have been the second largest CTV firm. However, Justice Department disapproval resulted in a cancellation of merger plans in April, 1973. Soon after in May, 1973, American acquired the interests of Time-Life Broadcast, Inc. in several major systems and franchises (Fresno, California (F), Marion, Indiana (S), Terre Haute, Indiana (SF), Levittown, Pennsylvania (F)). In addition to acquisitions, American has also obtained major new franchises in Orlando, Florida (F), Albany, New York (F), and Orange County, Florida (F). Thus, as of June 1, 1973, American has remained among the leading four CTV firms with approximately 350,000 subscriptions.

American has grown almost completely by acquisitions of individual systems and small CTV firms. However, American currently has a few large undeveloped franchises and applications in many small communities as well as several large ones.[33] Thus, without the possibility of a major merger, American's growth will depend on small acquisitions such as Time-Life or on internal development of its few large franchises.

The fifth largest CTV firm is Cox Broadcasting Corp.,[34,35] originally formed in 1964 to consolidate the holdings of five major VHF television stations and several radio stations.[36] Cox CTV interests also began in 1964 with the acquisition of Clapsop Television Company (Aberdeen, Washington (S))[37] and an interest in Trans-Video Corp. (San Diego, California (SF) and 50% of Bakersfield, California (S)). In 1967, Cox acquired the remaining interests in Trans-Video Corp. and the Bakersfield, California system. Then in 1968, the cable television holdings were consolidated into the subsidiary Cox Cable Communications, Inc. and expansion of the cable properties began in earnest. The major acquisitions to follow were Telesystems Corp. (Macon, Georgia (SF)) in 1969 and Santa Barbara, California (SF) in 1971.[38]

In addition to acquisitions, Cox has been active in obtaining franchises in medium-sized towns and major urban areas. Through an 80%-owned subsidiary, Cox obtained a substantial franchise for Atlanta, Georgia (F) in 1966. As of 1972, development of the Atlanta franchise has been inconsequential but Cox's survey responses indicate substantial plans for expansion of plant-miles. In 1969, Cox also obtained a major franchise for Moline, Illinois (F) and neighboring communities. Then in 1971, Cox, in a joint venture with Melhar Corp., obtained the franchise to build and operate a CTV system in St. Louis, Missouri (F) containing approximately 220,000 dwelling units. In addition, Cox owns smaller percentages of franchises in Saginaw, Michigan (F) and Toledo, Ohio (F).

Cox Cable Communications, Inc. was the second largest CTV firm in Tate's January 1, 1970 tabulations with almost 200,000 subscriptions. As a result of two factors, Cox has fallen to fifth largest with 275,000 subscriptions as of June 1, 1973. First, internal growth on Cox's major franchises has been a slow process. And second, the previous discussion has demonstrated the rapid rise of new CTV firms through major acquisitions and mergers. In July, 1972, Cox attempted to follow a similar route by merging with American Television and Communications Corp. However, Justice Department disapproval prevented consummation of what would have been the second largest CTV firm. Thus, future growth of Cox may depend on the development of its existing major franchises and its ability to obtain new major franchises from among its 15 or so existing applications.[39]

Conclusion of Section III

Thus, a cursory examination of concentration ratios mask important trends within the CTV industry. For an industry which is growing very rapidly in many diverse localities with no apparent economies of scale across communities, one would expect to find a substantial trend of deconcentration. Instead we find moderate increases in concentration of ownership. Behind the modest increases in concentration is a very strong merger and acquisition[40] movement among the industry leaders. Even though actual development has proven successful in only a relatively small number of larger communities, the industry leaders have taken an aggressive lead in obtaining franchises in these communities. In this way, the industry leaders are guaranteeing for themselves a large share of new subscription growth as small communities become saturated. Thus, even though estimates of future concentration are too difficult and uncertain to be of interest, one would expect future increases in concentration.

Therefore, it appears that since 1970, the cable television industry has entered a period of increasing concentration. The explanations and implications of this trend are unclear. Since CTV systems are not competitive among themselves, the standard economic theory of industry concentration to achieve monopoly profits does not apply and its resulting implications of increased price and reduced output cannot be inferred for the industry. Perhaps the most that can be said at this point is that increased concentration in the CTV industry may reduce competition for franchise grants. In so doing, franchising communities may not be able to prevent the local monopoly consequences of increased price and reduce output. However, in order to more thoroughly answer the basic question of why a CTV system is more highly valued by a large CTV firm than by an individual system owner or a small CTV firm, the discussion will turn to an examination of recent vertical integration by the industry leaders in section IV.

Section IV

The vertical interrelationships to be discussed are those between the five industry leaders and (1) CTV equipment producers and/or (2) programming producers. CTV equipment is generally a one-time input into construction of a CTV system whereas programming is potentially a continuous input into CTV systems. Current programming inputs of CTV systems are by-and-large passively derived from retransmission of over-the-air programming. Thus, the possibility of additional programming originated and exhibited by CTV firms is the primary interest of this section.

The CTV equipment producing firms have had a close historical relationship with the CTV industry. In the early years CTV equipment firms such as Jerrold Electronics[41] were also leading CTV firms. However during the 1960's the CTV equipment firms experienced a rapid relative decline as CTV firms. Ameco, Entron and General Electric still own and develop a few medium-size systems, but Jerrold sold its remaining CTV properties to Sammons Communications in 1971 and 1972. Such a trend is not inconsistent with a Stiglerian theory of vertical disintegration.

> "...young industries must design their specialized equipment and often manufacture it,.... When the industry has attained a certain size and prospects, many of these tasks are sufficiently important to be turned over to specialists. It becomes profitable for other firms to supply equipment..."[42]

Entron and General Electric undoubtedly maintain their CTV holdings only as a means of testing new equipment.[43]

Simultaneously with the decline of full-line CTV equipment producers as CTV operating firms, there has been marked recent trend toward vertical integration into specialized equipment by the industry leaders.[44] TelePrompTer has acquired three electronics firms since 1965 and is developing auxiliary CTV services (household security systems) and short-haul microwave relay systems as a substitute for expensive cabling situations encountered while developing urban CTV systems. In addition, TelePrompTer is associated with Hughes Aircraft which has received a domestic satellite grant.[45] Similarly, Warner, through its majority-owned subsidiary Goldmark Communications Corp.,[46] is also developing auxiliary services (two-way cable capabilities, electronic publishing, and programmed educational material for television), short-haul microwave transmission, and domestic satellite capabilities. In addition, Tele-Communications through its subsidiary Western Tele-Communications, Inc. has been granted its application for satellites to relay television, voice, and data signals domestically.[47]

Thus, vertical integration by leading CTV firms into equipment has been aimed at very specific research and development activity. Auxiliary CTV services could provide sophisticated extensions to the basic CTV services. Short-haul microwave transmission will be essential in order to avoid costly cabling in the dense urban television markets. And domestic satellites, in conjunction with ground stations tied into regional microwave systems, could provide simultaneous interconnection of a firm's entire subscribership and allow the development of cable television networks. As shall be discussed in section V, this interest of leading CTV firms in domestic satellites seems to be closely interrelated with the increased industry concentration from the growth of

"CTV chains" previously discussed and with the vertical integration of these leading CTV firms into programming to be discussed next.

With a few exceptions, vertical integration into programming is confined to the leading five CTV firms.[48] TelePrompTer had been involved in closed circuit telecasts of entertainment, sports events, and business meetings even before it directly entered into programming production with the acquisition of Filmation Associates in 1969. Filmation is a producer of animated programming and in 1971 entered a joint venture with Warner Bros. to produce animated films. TelePrompTer plans to expand Filmation into other lines of program production.[49] In addition, TelePrompTer in 1972 acquired Muzak, Inc., a producer of television background music.

In the case of Warner Communications, programming interests began in 1969 with the acquisition of Warner Bros.-Seven Arts, Ltd., while entry into the CTV industry did not occur until 1971. The Warner Bros. subsidiary finances and produces feature motion pictures for theatre and television distribution, produces television series, and produces phonograph records. Similarly, in their 1971 Annual Report, Twentieth Century Fox also expressed its intent to make significant acquisitions and investments in the CTV industry citing the 1972 easing of FCC regulatory restrictions as the motivation. Even though Twentieth Century Fox has not made good on its promise, there seems to be a growing affinity of major motion picture producers for the CTV industry.

Tele-Communications entered program distribution and production in 1971, with the acquisition of 78% of National Telefilm Associates, Inc. National Telefilm is primarily a film distributor, but is also involved in production of film and tape series. In 1973, Tele-Communications also acquired NBC's television program syndication business. Thus, Tele-Communications is a significant program distributor.

American Television and Communications possesses no programming interests which may have been one reason for its aborted attempt to merge with Cox Cable in 1972. Cox entered program production in 1967 with the acquisition of Bing Crosby Productions, and has since produced several major motion pictures and television series.[50] In the 1970's, Bing Crosby also entered joint ventures for the production of modest budget motion pictures.

Thus, one primary interest of the CTV industry leaders has been the production of motion pictures. With few exceptions, this programming production has been intended for primary distribution through the existing theatre and television outlets, and not through the firm's own CTV systems. This curious phenomenon is the result of a combination of current economic, technical, and regulatory limitations to be mentioned in section V. The economic and technical limitations with cable television networking are potentially surmountable, but the regulatory limitations are another matter.

Conclusion: of Section IV

The recent trends of vertical integration within the CTV industry appear to be more than an incidental sidelight to the primary CTV operations. The trends in concentration and vertical integration seem intentional and coincidental. Section V will consider the possible extent to which they are also complementary.

Section V

One possible explanatory scenario of the relationship between the trends of concentration and vertical integration rests upon the public good nature of programming. Programming is a public good in that the marginal production costs of distributing the programming to additional subscriptions is zero. This is not to say that the distribution costs of programming to additional subscribers is zero. On the contrary, these distribution costs will include operating and capital costs of wiring new subscriptions on existing systems as well as intersystem program transmission costs for wiring new subscriptions on new systems. However, programming may generate revenues from additional subscriptions (subscription effect) which dominate the distribution costs as well as the fixed production costs of the programming.

At it stands currently, CTV system revenues are limited almost completely to monthly subscription charges.[51] Pay cable charges[52] and advertising[53] on originated programming[54] are inconsequential sources of revenues for CTV systems as a result of FCC restrictions[55] and the unproven profitability of origination. Thus, CTV exhibition of originated programming is completely a growth phenomenon--its existence depending on the profitability of the new subscriptions obtained. In other words, with monthly charges as the only source of revenue, the marginal increase in revenues from new originated programming is equal to the monthly revenue on the new subscriptions induced by the programming--the subscription effect. In addition, the maintenance of such originated programming depends on the existence of a viable over-the-air alternative.[56] Liberalization of the FCC's rules restricting originated programming would certainly be the first step in allowing cable television the chance to profitably meet public demands for additional programming.

Individual CTV systems have traditionally prospered from the importation of distant network and independent signals. In non-urban areas, the demand for imported signals was so substantial that subscription revenues dominated the capital costs of the plant construction and the costs of importing and retransmitting the programming, especially since no copyright fees were required. In addition, some CTV systems have found that low cost local origination attracts enough additional subscriptions to be profitable. However, few CTV systems have found syndicated programming accessible (territorial exclusivity) or profitable.[57]

For multi-system CTV firms, the lack of direct interconnections between CTV systems presents a substantial barrier to the initiation of networked programming. Even the bicycling[58] or programming among systems has been inhibited by the incompatability of videotape and film equipment.[59] Some leading CTV firms have taken small steps to overcome these problems by updating their individual systems in close geographical proximity.[60] The strong interest of the leading CTV firms in domestic satellites is an indication that this new distribution technology may significantly lower the initial barrier to the networking of originated programming.

With a distribution technology such as domestic satellites linking CTV systems simultaneously, the public good nature of programming implies that larger CTV firms would have a substantially greater incentive to network originated programming.[61] This is especially true of CTV firms with undeveloped franchises in urban areas where the subscription effect of originated programming is presumably the greatest since these areas have the best access to most existing sources of programming. Public announcements of their intent to network and their disposition to vertically integrate into programming indicate that the industry leaders expect networking of originated programming to eventually be profitable. In addition, the large number of recent stock acquisitions and mergers signal the recognition of the additional profitability of spreading one set of program costs over the merged CTV systems, benefiting both sets of stockholders.

In addition, the public good nature of programming creates an incentive for large CTV firms which are planning to network originated programming to acquire individual systems with potentially substantial subscription effects. Owners of such systems without access to equivalent programming will be unable to internalize the profits from the subscription effect. Thus, there exist prices at which the acquisition becomes mutually beneficial to both parties. This is one possible explanation for the large number of recent acquisitions of individual CTV systems by large CTV firms if it can be argued that planned originated programming by these large CTV firms is superior to the programming available to individual CTV systems.

Thusly armed, a brief explanatory scenario linking the concentration and vertical integration trends can be presented.

Before 1966, imported over-the-air signals were adequate to profitably penetrate all but the super television markets (New York, Los Angeles,[62] Chicago, etc.) where imported signals would merely duplicate existing signals. However, the FCC's 1966 restriction on importation into the top 100 television markets[63] ended the supply of costless high quality programming which CTV operators in these markets required for profitable penetration. Thus, as in the super television markets, growth of cable television in the remaining top 100 markets was cemented to originated programming. Individual CTV firms in these markets were denied their primary additional programming sources, and large CTV firms franchising major urban communities were forced to consider origination of programming. By setting up the previously discussed incentive structure, the 1966 restriction of importation, precipitated an acquisition and merger movement within CTV industry.[64]

However, this argument is not sound unless there are reasons to believe that local origination and market sources of syndicated programming available to individual CTV systems are inferior relative to the potential network programming of large CTV firms. Even though some CTV operators have held high hopes of penetrating urban minority clusters with local minority programming, it certainly seems that low cost, low talent local origination would have lesser viewer appeal than the originated programming a large CTV firm could profitably provide with an adequate distribution technology. Similarly, in order for large CTV firms to substantially penetrate the super television markets, their originated programming would have to compare favorably with the existing independent over-the-air programming derived from the syndication market.

Thus, unable to rely on local origination or the syndication market, CTV systems would have to form their own networks by affiliation in order to fully internalize the subscription effect from originated programming. However, attempts to form CTV networks in this way have failed as a result of lack of participation.[65] It seems that this phenomenon is more than the result of transactions costs or the pervasive distribution barrier. The leading CTV firms have such a dominant control over those CTV franchises where new programming could substantially increase penetration, that their refusal to participate guarantees the failure of a CTV network. In particular, Shapiro's dissertation survey found that TelePrompTer has a strict policy against cooperative programming arrangements with other CTV operators.[66] Thus, CTV concentration is self-perpetuating by providing leading CTV firms with leverage to prevent industy-wide networking and maintain the existing incentive structures.

Normally, even the leading CTV firms would have only limited access to programming because of the pre-eminance of theatres and over-the-air television as distribution channels. The largest CTV firms can reach only 1% of the nation's television homes, whereas theatres and television have nearly 100% coverage. However, vertical integration has provided the leading CTV firms with programming affiliations "necessary"--as in the sense of Stigler's young industries--for initial efforts toward CTV networking. Such experiments with networking seem likely as soon as the distributional barrier is overcome by the deployment of domestic satellites.

The above argument attempts to account for the apparent interconnection between the increasing concentration within the CTV industry, the rapid growth of large CTV firms by acquisition and merger, and the vertical integration of these large CTV firms into domestic satellite technology and program production. The argument is by no means a completely consistent and accurate explanation for these trends within the CTV industry. Instead it is a simple explanatory scenario prepared as food for thought.

Conclusion

To conclude, this paper has simply attempted to document the recent alternations in the industrial structure of the CTV industry and to grasp for an understanding of the causes. The basic observation has been that similar to over-the-air television, the public good aspects of programming are driving cable television toward the formation of networks. However, unlike over-the-air television where more than one station can serve a community and where networks are formed by affiliation of stations, cable television technology almost requires a single distribution system and cable television networks are evolving through ownership of systems. This leaves many important policy questions unanswered. What type of direction, or lack of direction, should be imposed upon the development of the cable television industry in order to obtain optimal television services now and in the future?

An optimal production of programming requires that everyone have viewing access. An optimal cable distribution network requires that the plant be unique. Yet, the provision of high quality and diverse programming material requires competition among program exhibitors.[67] These objectives are not mutually exclusive. The first best solution would be the "separation of the media from the message" whereby the distribution system would simply be a nondiscriminatory carrier of multiple channels of programming produced by others.[68]

A possible second best solution suggested from earlier arguments might be the limitation of concentration over cable distribution by means of anti-trust action. If such a policy could successfully limit all CTV firms to an inconsequential ownership of cable distribution facilities, then the economies of networking might force CTV firms to behave approximately like non-discriminatory carriers of programming. In other words, without concentration over distribution, CTV networking activities might be spun off to specialists who would produce programming and exhibit it by purchasing time from all CTV firms. Such an alternative solution may be of interest should the first best solution prove politically infeasible.

Footnotes

[1] Cable television will hereafter be abbreviated "CTV" when used as an adjective.

[2] For an interesting discussion of the early work of Parsons and Walson, see Phillips [1972], chapters 1-6. It is also interesting to note that John Walson is still a major CTV operator. He is principle owner of Service Electric Cable TV, Inc. which is the eleventh largest CTV firm (as of June 1, 1973) and consists of several large systems in Pennsylvania including Allentown, Pennsylvania with over 40,000 subscribers and Mahanoy City, Pennsylvania with over 20,000 subscribers.

[3] The FCC freeze was ostensibly for the purpose of allowing the commission time for formation of regulatory policy for licensing the use of the television spectrum in the public interest.

[4] TV Factbook-Services Volume, 1972-1973, p. 75a.

[5] This explanation does not reflect all the relevant factors contributing to CTV growth. In particular, CTV growth and penetration have been greatest in communities just beyond the television broadcast range of New York and Los Angeles, both of which have a substantial number of independent television stations over and above three network affiliates.

[6] The FCC favored a policy of local television spectrum allocations in order to promote the use of the television media for accenting local interests and concerns.

[7] Seiden [1965], pp. 83-84.

[8] Smith, Ralph [1972].

[9] Seiden [1965], pp. 58-62.

[10] Tate [1971], p. 106.

[11] TV Factbook-Services Volume, 1973-1974, p. 84a listed total industry subscriptions at 6,000,000 for January 1, 1972 and 7,300,000 for January 1, 1973. Thus, 6,650,000 is simply the midyear average.

[12] CATV Station Activity Agenda, July-December, 1972.

[13] Weekly Television digest, Special NCTA Convention Supplement, June 17-20, 1973, p. 1.

[14] A five month industry subscription growth of 700,000 implies an approximate yearly growth of 1,700,000--400,000 over the maximum industry growth year of 1972.

[15] TV-Factbook-Services Volume, 1972-73, p. 75a.

[16] TelePrompTer Corp. is a publicly-held corporation with approximately 3.1 million shares of common stock outstanding as of July, 1972. However, primary stockholders are Los Angeles sports promoter Jack Kent Cooke with 16.1% of outstanding stock and Hughes Aircraft with 5.5% of outstanding stock (Wall Street Journal 12/3-8;3). Other important stockholders are Irving B. Kahn and H. J. Schlafly, the co-founders, and Jack Wrather as a result of stock acquired from Western Union Telegraph Co. in 1965. TelePrompTer Corp. headquarters is in New York City.

[17] Historical information on TelePrompTer to follow is primarily from Moody's Industrial Manual, 1973, pp. 3172-3174 and TV Factbook-Services Volume, 1972-73. Specific systems menti[illegible]d hereafter will have at least 10,000 subscriptions (indicated by [illegible] and/or 20,000 expected subscriptions in five years (indicated by [illegible] as [illegible]eported by the TV Factbook, 1972-73 systems surveys.

[18] In December, 1971, Irving B. Kahn--co-founder, chairman, chief executive officer, member of the board of directors, and important stockholder of TelePrompTer--was found guilty, fined, and sentenced to five years in prison for bribery of the mayor and two city councilmen of Johnston, Pennsylvania in return for the 1966 grant of an exclusive franchise (Wall Street Journal 10/21-38;2). As a result, Kahn has been replaced in the executive positions and on the board of directors.

[19] TV-Factbook-Services Volume, 1973-74, p. 83a.

[20] Historical information on H&B Communications to follow is primarily from Moody's Industrial Manual, 1970, p. 2039 and TV Factbook-Services Volume, 1972-73.

[21] Tate, p. 106.

[22]Since July, 1972, TelePrompTer has obtained franchises in Anaheim, California; Gary, Indiana; and Duluth, Minnesota-Superior, Wisconsin. Additional major applications include Birmingham and Montgomery, Alabama; LA-Watts and Sacramento, California; New Haven, Connecticut; Washington, D.C.; Jacksonville and Tampa, Florida; Chicago, Illinois; Minneapolis-St. Paul, Minnesota, Middletown, Bronx, and Queens, New York; Pittsburgh, Pennsylvania; Richmond, Virginia; and Milwaukee, Wisconsin.

[23]Warner Communications is a publicly-held corporation with headquarters in New York City. Historical information on Warner to follow is primarily from Moody's Industrial Manual, 1973, pp. 2759-2763 and TV Factbook-Services Volume, 1972-73,

[24]Historical information on TeleVision Communications Corp. is primarily from Moody's Industrial Manual, 1971, p. 229 and TV Factbook-Services Volume, 1972-73.

[25]Historical information on Cypress Communications Corp. is primarily from Moody's Industrial Manual, 1971, p. 76 and TV Factbook-Services Volume, 1972-73.

[26]The Canton, Ohio system cost Cypress 5.6 million dollars in 1972. This amounts to approximately $350 per existing subscription (16,000 in 1972).

[27]Warner's major applications include Birmingham, Alabama; Phoenix, Arizona; Little Rock, Arkansas; Sacramento, California; New Haven, Connecticut; Washington, D.C.; Jacksonville and Tampa, Florida, Chicago, Illinois; New Orleans, Louisiana; Baltimore, Maryland; Boston and Springfield, Massachusetts; St. Paul, Minnesota; Omaha, Nebraska; Cincinnati and Dayton, Ohio; Providence, Rhode Island; Dallas, Fort Worth and Houston, Texas; Richmond, Virginia; and Milwaukee, Wisconsin--most as a result of the merger with Cypress.

[28]In 1973, Warner attempted to acquire Sterling Manhattan with its over 40,000 subscriptions in lower Manhattan and franchise on Long Island. However, the acquisition was terminated as a result of the inability to reach an agreement.

[29]Tele-Communications is a publicly-held corporation with headquarters in Denver, Colorado. Historical information on Tele-Communications to follow is primarily from Moody's OTC Industrial Manual, 1973, pp. 425-426 and TV Factbook-Services Volume, 1972-73.

[30]Of its less than 30 applications, the only major ones appear to be Sacramento, California; Jacksonville, Florida; Portland, Maine; and Omaha, Nebraska.

[31]American Television and Communications Corp. has its headquarters in Denver, Colorado. Historical information on American Television and Communications Corp. to follow is primarily from Moody's OTC Industrial Manual, 1971, p. 70 and TV Factbook-Services Volume, 1972-73.

[32]Jefferson-Carolina Corp. was acquired from United Utilities, Inc. and Jefferson-Pilot Corp. The acquisition involved systems, franchises, and applications predominantly in North Carolina where United Utilities operates many local telephone systems.

[33]American's major applications include Sacramento, California; Jacksonville and Tampa, Florida; Portland, Maine; Baltimore, Maryland; Middletown and Queens, New York; Omaha, Nebraska; and Providence, Rhode Island.

[34]As of 1972, J. M. Cox, Jr., chairman of Cox Broadcasting Corp. and members of the Cox family controlled 58% of the 5.8 million outstanding shares of common stock in Cox Broadcasting Corp. which in turn owns 56.3% of the nearly 3.6 million outstanding shares of common stock in Cox Cable Communications, Inc. The headquarters of Cox Broadcasting Corp. is in Atlanta, Georgia.

[35]Historical information on Cox to follow is primarily from Moody's Industrial Manual, 1973, pp. 1240-1241 and TV Factbook-Services Volume, 1972-73.

[36]The VHF television stations are in Atlanta, Georgia; Dayton, Ohio; Oakland, California; Pittsburgh, Pennsylvania; and Charlotte, North Carolina; and the radio stations are in Atlanta, Georgia; Dayton, Ohio; Charlotte, North Carolina; and Miami, Florida.

[37]Among the systems obtained from Clapsop Television Co. was the Astoria, Oregon system originated by L. E. Parsons in 1948.

[38]The Santa Barbara, California system cost Cox approximately 7.9 million dollars in 1971. This amounts to approximately $260 per existing subscription (≈ 30,000 in 1971).

[39] Cox's major applications include Sacramento, California; Peoria, Illinois; Omaha, Nebraska; Pittsburgh, Pennsylvania; Milwaukee, Wisconsin; Cleveland and Dayton, Ohio. One possible reason for Cox's desire to merge with American Television and Communications Corp. might have been its relative lag in franchise applications as compared to other industry leaders. The merged firm would have put the combined firm on a par with TelePrompTer and Warner in applications as well as subscribers.

[40] The predominant method of acquisition is by common stock. Thus, acquired firms become important stockholders in the acquiring firms.

[41] Milton Jerrold Shapp started Jerrold Corp. with $500 in 1947. He was instrumental in the early development and application of community antenna and cable technology. Shapp sold his interests in 1966 for $10 million in order to enter Pennsylvania politics. He was elected governor of Pennsylvania in 1970. Jerrold Corp. is now a subsidiary of General Instrument.

[42] Stigler [1951], p. 190.

[43] This point was suggested to me by my uncle, Howard Gordon, who is an employee of General Electric.

[44] Information on the vertical integration of the firms to be discussed is primarily from Moody's Industrial Manual, 1973.

[45] In 1972, the FCC granted several applications for domestic satellites including one by Hughes Aircraft which stated its plans for point to multi-point program transmission necessary for a CTV network. TelePrompTer also has pending applications for earth stations. (Pikes and Fischer Radio Regulation (24), 1972, pp. 1942-1963.)

[46] Goldmark Communications is headed by Dr. Peter Goldmark who was instrumental in the development of the long playing record, color television, and video cassettes.

[47] The application called for two satellites and six domestic ground stations to be eventually extended to hundreds of ground stations. The satellites would be capable of carrying twenty channels of television.

[48]Viacom International, Inc., the sixth largest CTV firm, was spunoff from CBS in 1970 when the FCC ruled that no network could maintain an interest in any CTV systems (Phillips [1972], p. 131). Anyway, Viacom is engaged in worldwide program syndication and distribution.

[49]TelePrompTer Annual Report, 1971.

[50]Bing Crosby's two most successful recent motion pictures were "Williard" and "Ben," and its most successful television series was "Hogan's Heroes."

[51]Monthly subscription charges range from $3.00 to $25.00, but are generally $5.00 to $6.00.

[52]Pay cable charges are fees for additional programming such as new movies which are obtained independently by CTV systems or could be produced by CTV firms. Currently, there is only limited experimentation with pay cable. Most notable is Warner with ten operational pay cable systems ("Broadcasting," Oct. 8, 1973, pp. 22-23).

[53]Advertising on retransmitted signals must be carried as is, and commercial advertising on originated programming is prohibited by the FCC.

[54]Originated programming on a CTV system in this paper means exhibited programming which is obtained by purchase from programming production sources or self-produced, that is, programming <u>not</u> obtained by retransmission of existing over-the-air television signals.

[55]Current FCC regulations (Oct. 1, 1972, 47, CFR, 73.643-4) essentially restrict purchased originated programming to feature films released no earlier than two years before cable television exhibition and to sporting events not desired by over-the-air television. No series programs are allowed. However, self-produced non-series programs could be exhibited.

[56]With a "wired nation" and the demise of the over-the-air alternative, CTV firms could eliminate originated programming without a subsequent loss of subscriptions.

[57]Manning [1973] estimated the rates for syndicated programming to be too high for profitable exhibition on most CTV systems. Manning also points out that the greater TV home coverage of over-the-air television and territorial exclusivity in the distribution of syndicated programming will prevent cable television access to this market for programming.

[58]Bicycling of programming means distribution by sequential mailing of videotape or firm to the various systems for exhibition. This method of distribution lacks simultaneity of exhibition characteristic of the major over-the-air networks.

[59]Shapiro [1972], pp. 34-37.

[60]CTV firms standardizing equipment include American Television and Communications Corp., TelePrompTer, Tele-Communications, Inc., and Cablecom-General, Inc. CTV firms interconnecting systems by microwave include Tele-Communications, Inc. Shapiro [1972], chapter IV.

[61]This argument is based on the assumption that domestic satellites will not only reduce the cost of simultaneous distribution, but will also result in economies of scale in distribution with respect to the number of systems interconnected.

[62]Current penetration in New York City is primarily from improved reception in areas with building interference. Current penetration in the Los Angeles area is also from improved reception of VHF signals and closely spaced VHF signals.

[63]Severe restrictions on the importation of signals into the top 100 markets issued on March 8, 1966 were a result of the FCC's misguided concern over cable television's threat to the viability of UHF television. The concern was misguided in that later evidence indicated that cable television improves viewership of UHF stations by their improved reception on cable.

[64]In interviews with TelePrompTer officials, Phillips [1972] noted that TelePrompTer acquired some major CTV systems at good prices because the individual system owners perceived a substantial threat to the future growth of their concerns from the 1966 FCC rulings.

[65]Shapiro [1972].

[66]Shapiro [1972], pp. 113-114.

[67]Beebe [1972].

[68]Owen [1970].

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Abstract

After a brief review of the growth of cable television from 1948 to 1965, the paper examines in more detail trends in the structure of the industry since 1965. Specifically, interest revolves around the apparent trends of concentration and vertical integration within the industry. Subscription concentration ratios are estimated from 1965 to 1973, and they partially confirm the trend of increased concentration. Corporate histories of the leading firms are then used to demonstrate that the increases in concentration have been the result of a pervasive acquisition and merger movement within the industry. In addition, documentation is presented of vertical integration by the leading firms into both program production and development of specialized equipment.

Finally, an attempt is made to associate these recent trends in the structure of the cable television industry with the public good aspects of programming. The conclusion is that cable television is in the early stages of network formation via concentration of subscriptions and integration into both programming and domestic satellite technology. Some thoughts on possible policy alternatives conclude the paper.